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NSF's Budget: The Snipers Take Their Toll

When it comes to tales of homosexual seagulls, some Congressmen have long memories. They'll not forget that the National Science Foundation has dished out \$62,300 to study that subject, or \$900,000 to learn why bugs are a "negative factor" in camping, or \$25,000 to conduct a series of experiments including one to gauge individual reaction to a picture of an octopus in a barnyard.

Indeed, as lawmakers discuss the 1979 appropriations for NSF, fiscal conservatives on Capitol Hill are again carping about the "questionable" research projects financed by the Foundation, particularly within the more esoteric areas of the biological and social sciences. And this factor, coupled with the post-Proposition 13 budget-cutting mood that grips Washington, means that the prospects for NSF in the coming fiscal year don't look nearly as good as they did in January.

When President Carter sent his fiscal 1979 budget requests to Congress, it seemed likely that basic re-

search are what one science advocate characterized as "the mind-set of the Nixon years" — the "suspicions" and "personal prejudices" among some politicians about the usefulness of basic research.

In a press release earlier this summer, Sen. William Proxmire (D-Wisc.), chairman of the Senate panel that handles NSF appropriations, said he would attempt, as he has in the past, to reduce spending for NSF research projects. Although his budget-cutting attempts have largely been rejected in recent years, Proxmire has successfully called attention to what he considers wasteful government spending by presenting his "Golden Fleece Award" for several of NSF's research projects. The Senator specializes in cheap shots, but it must be recognized that he's highly skillful at getting attention by making serious research look ridiculous.

For example, the \$62,300 study of the Ethno-Endocrinology of Female Pairs of Western Gulls. Better known as the "gay sea gull study," the project, which was carried out by two Nobel-Prize-winning

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search would continue to benefit from the policies initiated during the Ford Administration to shore up federal support for scientific research after the lean Nixon years.

The House, however, has already voted to cut more than \$40 million from the Carter Administration's proposed \$934-million budget for the Foundation. If the Senate should decide to follow suit later this summer, the reductions could mean that NSF's support for basic research will not even keep pace with inflation in fiscal 1979. In fact, Foundation officials estimate that the \$806.4 million allocated by the House for NSF-supported research could fall nearly 4 per cent short of current spending levels.

Only science-education programs — which are only a drop in the big Foundation bucket — would thrive under the House-approved bill. With a mandate to emphasize disadvantaged individuals who might not pursue a career in science without special assistance, the education programs would receive \$82.6 million in fiscal 1979. That is \$5 million more than President Carter requested and 5.5 per cent above the projected inflation rate, which NSF estimates could be as much as 7 per cent in the next fiscal year.

Behind the efforts to cut NSF appropriations for re-

In Brief

In Soviet-American scientific cooperation — as in so many other matters — it's hard to say what the Carter Administration's position is these days. Human-rights concerns have been cited as the reason for canceling several official delegations to the Soviet Union, but others go on without interference. The best that can be said is that day-to-day reactions, rather than policy, have taken over — leaving lots of scientists, not to mention the Russians, justifiably confused.

With planning for next year's budget now in an advanced stage, all indications are that the squeeze is on and that research agencies will be lucky to keep pace with inflation. Such reports are routine at this season, but with Carter's political fortunes in rapid decline, budget austerity is being pressed on the lower echelons as an absolute necessity.

And, as has so often happened before, R&D budgets are particularly vulnerable to the knife, since they are in that one-third or so of federal spending that is not mandated by law. NSF recently reported that real R&D spending rose by an annual average of 3 per cent from 1974 to 1978, but "In the next year or two . . . is more likely to reflect growth close to the rate of inflation." Even that's now regarded as optimistic.

... Committee Contends NSF Has Fared Well

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endocrinologists, involved an investigation of the glands that secrete hormones and the mechanisms by which hormones are made.

Despite NSF's contentions that basic research of this sort is scientifically valuable, exploitation of the gay sea gull has helped gouge the NSF budget — as have other targets of Congressional ridicule. When the House voted in April to authorize NSF's programs, for instance, Rep. John M. Ashbrook (R-Ohio) came up with some of his own examples. Among them were a \$40,700 study on "Interpersonal Attraction in the Laboratory and in Educational Settings" and a \$36,500 study of "Song-learning and Consequences in Parasitic Finches."

Many of his colleagues were amused and some were infuriated. Rep. Thomas R. Harkin (D-Iowa), however, took the side of NSF.

"How many members in the past would have voted for money to study the 'Growth of viruses in monkey kidney cells?'" Harkin asked his colleagues. "Probably not very many. But this project alone won the Nobel Prize for Dr. John Enders of Harvard University some years ago. The study had no practical use at that time, but it laid the foundation for development of the first polio vaccine by Dr. Jonas Salk. The silly-sounding title of a basic research project today may be the cancer cure of tomorrow."

But, in its report on NSF appropriations—which are included in a \$68.2-billion bill for the Department of Housing and Urban Development and various independent agencies — the House Committee on Appropriations did not buy the argument that more basic research is needed. In fact, the committee report said that because NSF had grown in recent years, the Congress could now "afford" to slow down its spending for research. Since 1970, the report stated, NSF's total obligations have increased at an annual rate almost 9 per cent above inflation, reaching a total of \$861.3 million in fiscal year 1978.

Moreover, the House panel argued that its recommendation to cut NSF's budget requests were consis-

tent with the Administration's decision to expand basic research support through the "mission-oriented" agencies, such as the departments of Agriculture, Defense, Energy, and Health, Education, and Welfare.

The committee also criticized NSF for failing to coordinate its research activities with other federal agencies. In designating specific areas that should be cut, the committee cited examples of "interagency duplication," including research in energy, urban planning and design, earthquake hazards, and community water management.

Though, at this writing, the final returns are yet to come in from the Senate, the mood in that chamber is not a particularly favorable one for the Foundation. Senator Kennedy initially asked a \$16-million increase over the Administration's request for NSF but when the budget-cutting mood began to spread, the Senator joined with nine of his colleagues in adopting an amendment to hold the budget at the level originally proposed by the Administration.

According to NSF officials, the House reductions in the fiscal 1979 budget would be divided among several areas: The biological, behavioral, and social sciences would receive an estimated \$149 million — well below the \$158 million requested by the Carter Administration. Mathematical and physical sciences and engineering would get \$260.7 million — down slightly from the \$268.3 million figure.

Astronomical, atmospheric, earth, and ocean sciences would be allocated approximately \$220.9 million — compared to the Administration's proposed \$227.3 million. Applied science and research applications would receive about \$48.1 million — as against the Administration's \$67-million proposal. Scientific, technological, and international affairs would be allocated some \$23.6 million — down from the Carter figure of \$24.34 million.

Only three areas of NSF-supported research were specifically cited by the House committee as worthy of expansion. Two of them involve food production: NSF's agricultural-biological research projects and its

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... Have-Nots Demand Bigger Budget Share

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scientific investigations of potentially rich marine-protein resources in Antarctica. For the Antarctica project, the Committee recommended that NSF earmark \$15,000 to establish a permit and regulatory system to protect native Antarctic plants and animals.

In its third recommendation for expansion, the Committee urged NSF to use \$1 million of the funding for research and related activities "to help institutions in States now competing less successfully to improve their ability to participate in competitive research programs."

To NSF, that's a slap in the face. It comes from a number of legislators — notably those from the South — who have been piqued for years that institutions in their states don't receive what they consider a fair share of NSF funds. Because nearly half of the NSF funds are awarded to institutions in only four states — California, Colorado, Massachusetts and New York — NSF has announced that it will start a new planning-grant program for states that have received little or none of its support. The planning grants will be designed to find ways to strengthen their scientific-research programs.

As has long been the case, but more so now than ever, the basic problem facing NSF is that the needs of its constituents far exceed the Foundation's resources. They're hungry out there, and rejected applicants do not take kindly to NSF's explanation that money is awarded on the merits. In the past, rapid budgetary growth has enabled the Foundation to accommodate some of this pressure. But with the budget more or less

NSF Funds New Minority Aid

In what it describes as a new approach "designed to increase the number of scientists and engineers from minority and low-income groups," the National Science Foundation has selected Atlanta University, Georgia, as the site of a multi-institution Resource Center for Science and Engineering.

To be operated in collaboration with four undergraduate institutions — Clark, Morehouse, Morris Brown and Spelman colleges — the Resource Center is expected to increase the availability of scientific resources to the Atlanta community and to a network of predominantly black colleges and universities in the region. Included in its program will be weekend science-related activities for school children as well as advanced activities for faculty members of nearby institutions. NSF is providing the center with a four-year grant totaling \$2.7 million.

The center will be directed by Thomas W. Cole Jr., Department of Chemistry, Atlanta University, Atlanta, Georgia 30314.

at a standstill, NSF no longer enjoys this relatively easy out. Add in the ridicule that's been directed toward some of the projects that it has chosen to support, and it's apparent why there's more than a bit of gloom around NSF these days. —Anne Roark

(The author is an assistant editor of the *Chronicle of Higher Education*).

Industry-Backed Group to Compete with Nader Organization

Stung by government regulations that have been pushed along by various public-interest groups, industry has lately been responding by supporting counterpart organizations to compete for public and government attention.

The latest on the scene is the American Council on Science and Health, a creation of Elizabeth Whelan, author of "Panic in the Pantry," a book that attempts to counter popular concern about food additives. Backed with a pledge of \$100,000 from the Sarah Scaife Foundation — Pittsburgh Mellon money — the newly created Council looks like a rightish counterpart of two consumer-oriented Washington-based organizations: The Center for Science in the Public Interest and Ralph Nader's

Health Research Group, both of which, if asked, would say that there's good cause for panic in the pantry.

Mrs. Whelan says of the Health Research Group that "Because they've done such a good job getting information to the press's attention, a lot of people don't know there's another side to the story," adding, according to press reports, "What we object to is the current tendency to call 'cancer' at just the slightest evidence, and the eagerness of our government regulatory agencies to ban perfectly useful substances at the hint of hypothetical risk."

The Council is located at 1995 Broadway, New York, N.Y. 10023. Telephone: (212) 362-7044.

China Visit Clears Way for Growth in R&D Ties

Presidential Science Adviser Frank Press and company returned from their hurriedly called and brief visit to Peking last month filled with optimistic reports about the prospects for a rapid boom in Sino-American scientific and technical relations.

The specifics of just what is to boom are understandably still lacking at this early stage of closer relations between the two countries. But in its well-established role as an instrument of international politics, science is riding a tide that strongly flows in the direction of expanded relations with the People's Republic of China. And, as a result, it is quite likely that hundreds, and eventually thousands, of Chinese researchers and students will be heading for American campuses and research centers—there is even a possibility that some will arrive as early as this coming academic year. And, in return, there are indications that China will open up for working visits by American scientists; this is particularly significant for social scientists, since there is a good deal that they want to study about China, whereas, by general account, there is not much there of professional interest for most other fields.

The Press visit (SGR Vol. VIII, No. 12), lasting only three and a half days — which included two banquets and a ballet — brought out certain fundamentals that are not surprising but that have sometimes been overlooked in discussions of Sino-American scientific and technical relations.

One is that the Chinese are not equipped to handle many non-Chinese-speaking visitors, and very few Americans speak Chinese. This, then, raises the likelihood of language training playing a prominent part in the early stages of American exchanges to China. On the Chinese side, reading proficiency in English is believed to be fairly widespread among scientists. But with their universities only recently emerged from the ravages of the Cultural Revolution, the extent of foreign language skills is believed to be quite uneven and possibly quite limited.

Concern about language problems is apparently what inspired the Chinese to propose that the US consider accepting large, though so far unspecified, numbers of students — starting at the undergraduate level. Coming from — let's call it — one of the restricted societies of the world, the prospect of its relatively young folks being set loose on American campuses is indeed novel, and raises all sorts of interesting possibilities, starting with, how are you going to keep 'em down on the commune after they've seen Berkeley? Perhaps there has been a rare case here or there but in asking around, SGR is yet to hear of any Soviet undergrads — apart from members of diplomatic families — who have been permitted to ex-

perience the peculiar ambience of American undergraduate life.

In any case, fruitless talks about student exchanges have gone on for years between the PRC and the Committee on Scholarly Communications with the People's Republic of China, which administers the US side of the non-governmental US-PRC exchanges that have feebly endured for the past five years. Those talks centered on the possibility of sending 30 students each way — and came to naught. The Press delegation found the Chinese talking about "several hundred," with the Chinese insisting, as Press noted at a news conference following his return to Washington, that "they don't want scholarships or anything like that. They want to pay their own expenses. If there are any costs incurred in connection with cooperative arrangements during research projects, they would pay their own way." (Press didn't say who would pay for the travel and expenses of Americans going to China, which is a not irrelevant matter in view of the condition and trends of American research budgets).

The main product of the visit was an understanding that the two countries would move along with cooperation in science and technology, which clearly means that the US has decided to provide assistance for China's recently proclaimed plan to get into the mainstream of modern science and technology.

At his news conference, Press said, "The results, as I see it, are that we have established a mechanism for future discussions for counterpart talks between our country and theirs" — by which he meant that the respective R&D leaders now know each other and they and their subordinates will next attend to the details of exchanges. To which Press added, "We opened a wide range of cooperation in the form of data exchange, advanced seminars, cooperative research ventures, student exchanges, and advanced training programs. . . We have identified areas of mutual interest, such as space, energy, public health, agriculture, oceanography, meteorology, natural resources exploration and development, to name a few of the areas."

Press insisted that the new Chinese relationship, rather than being "a tilt toward China and away from Russia," is simply an effort to build with the Chinese a "relationship on the level that we enjoy with other countries."

There is something to that, in view of the fact that ever since Nixon opened relations with China, the US has been pushing for closer scientific ties, and it's the Chinese who—until recently—have been intransigent. But the fact of the matter is that the timing of Press's Peking visit does suggest, if not a tilt toward China, at

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... Press's Moscow Visit Suddenly Called Off

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least a rebuff to the Soviets.

Against the background of the Orlov, Scharansky, and Ginzburg prosecutions, the visit was cooked up by Zbigniew Brzezinski during a visit to Peking at the end of May. The Administration gave prominence to the fact that the Peking delegation was the highest ranking of its kind ever sent abroad by the US — included were all the chiefs or senior associates of the government's major civilian research agencies. And, while the delegation was in Peking, the White House announced that Press would not attend a long-scheduled meeting with his Soviet counterparts the following week in Moscow. Whether that's been postponed or cancelled is not clear. But whether the political metaphor is "tilt" or "China card," the fact is that scientific relations with the Chinese have suddenly become cordial, while those with the Soviets have become sour and are rapidly getting worse. It can be argued that science is being used for raw political purposes, and that, given a not-impossible sudden shift in US relations with the Soviets or the Chinese, the callers at the White House could

again easily signal "Change partners!"

That's possible, but so it has always been. Science in the US has the semblance of an independent, non-governmentally directed enterprise. But government is both the banker for science and the director of our international affairs, and with that combination, science more or less has to take its cues from its political masters. No one can compel a scientist to engage in foreign cooperation, but it's not hard to stop him.

What's also interesting to note about the Sino-American friendship is that the long-standing impediment to closer ties — US recognition of Taiwan — is still there. In their quest for scientific modernity, however, the Chinese have now chosen to overlook it. In the past Taiwan was regularly invoked by the PRC as the reason for limiting US-Chinese scientific dealings to non-governmental organizations. In their talks with the Press delegation, however, the issue was not raised.

Finally, with Soviet human-rights violations the cause of cooling in our relations with the Soviets, it is

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Academy Study Frowns on Materials Processing in Space

With a barrage of uncharacteristically caustic remarks, a study group convened by the National Academy of Sciences has questioned the value of one of the pet hopes of the space lobby — the processing of materials in zero-gravity environment.

Widely touted as one of the great scientific and technological opportunities that will be provided by the cavernous space shuttle, materials processing in space has long been proclaimed as still another justification for the vast cost involved in what amounts to putting a freight car into orbit.

But in the opinion of a committee headed by William P. Slichter, executive director for research on materials science and engineering at Bell Labs, the case for materials processing in space is pretty thin.

Commissioned by NASA to examine the subject, Slichter's 14-member committee — drawn from academe, industry and government — recently reported that the "prospects for using the space environment for research and development on the processing of materials are limited and need to be better defined on a case-by-case basis. The early NASA program for processing materials in space has suffered from some poorly conceived and designed experiments, often done in crude apparatus, from which weak conclusions were drawn and, in some cases, over-publicized."

Furthermore, with an obvious knowledge of how

such things work in a government bureaucracy that's looking to keep busy, the Slichter committee warns that "There is a possibility that NASA could generate a large self-perpetuating program in materials, independent of and largely isolated from the many other earth-bound programs in materials processing."

To avoid this, the committee recommends that NASA's materials program be guided by an advisory committee and that project proposals should be examined by reviewers who are not beneficiaries of NASA's largess. To which it adds that "The identification of programs for investigation must be made by peer review, not by the availability of funds or the need to use a space facility."

The report doesn't rule out the possibility of space offering some advantages for research and perhaps industrial applications, and, in line with this, recommends that NASA initiate a five-year program of exploration. But it also urges that NASA take care that "proposed experiments address scientific or technical problems and are not motivated primarily to take advantage of flight opportunities or capabilities of space facilities."

(The report, "Materials Processing in Space," is available without charge from the Space Applications Board, National Academy of Sciences, 2101 Constitution Ave. NW., Washington, DC 20418).

Europe Remains Dubious of US Nuclear Stand

London. The Carter Administration's campaign to persuade Europe to abandon its pacesetter lead in nuclear fast-breeder technology played to a cold audience here July 11-12 at the third annual symposium of the Uranium Institute.

Prior to the meeting it was expected that word of a more flexible US policy would be delivered by the chief American representative, Joseph Nye, deputy to the State Department's Under Secretary for Security Assistance, Science and Technology. But Nye's message was seen as no more than a cosmetic change on previous stands, and as such the new line failed to win over the audience of uranium industry people, civil servants, and representative of other sectors of the nuclear industry.

In Britain at least the nuclear establishment agrees with President Carter's concern over nuclear weapons proliferation: it just doesn't agree with his answers to the problem. (Sir John Hill, chairman of the UK Atomic Energy Authority, has been pointing to proliferation as the real worry for some years — like most of his colleagues he sees the public furor over such topics as reactor safety, radiation, and so on as missing the point.) There is also some enthusiasm for the International Fuel Cycle Evaluation (INFCE), implemented as a result of an American initiative.

What has not been popular has been the apparent US desire to slow down the development of fast-breeder reactors and to do without spent-fuel reprocessing. When the US tried to intervene to influence the British government in an attempt to delay construction of the new reprocessing facilities at Windscale, its

action was seen as unwelcome interference (SGR, Vol. VIII, no 7).

There would have been little objection had the US come out against the reuse of plutonium in conventional thermal reactors — this has never been seen as a widely attractive proposition — but to question the fast-breeder reactor was to question the Europeans' pride and joy. The US now seems to have acknowledged this, and Nye's July statement seemed to tone down the previous hard line. "We ask those who bet on breeders to include security costs which they impose on others, particularly safe fuel cycles, in their economic calculations. At the same time they can rightly ask us for greater assurance on fuel supplies, and we are presently exploring bilateral and multilateral fuel assurance options."

Nye asked those countries that want to develop fast-breeder reactors — Britain and France are the most advanced in this area, both have 250-MWe prototypes operating — to include a number of factors in their decision making. If countries must build breeders these reactors should be designed to limit the amount of concentrated plutonium that exists at any stage in the fuel cycle, and they should keep the technology out of the hands of other countries. There will be few arguments with these constraints. If this move is a sign that the US is looking for a way to drop its outright opposition to fast reactors, then it is quite likely that the Europeans will go along with the US's new line and try to adopt a formula that will help the US save face.

However, there is no chance of other countries giving up breeders or reprocessing. They simply do not have Nye's faith in the Earth's ability to supply enough uranium at the right price and the right time. It is all very well for the US, with its massive domestic uranium reserves, to say, as Nye did, that "the US has adequate resources for the lifetimes of all LWRs to be installed well into the next century," but few European countries have more than a fraction of their future energy needs as domestic reserves. And the US and other countries have shown themselves to be unreliable as suppliers of uranium. Only recently the US and Europe, through the EEC, have agreed to renegotiate the Euratom/US Cooperation Agreement which covers the terms and conditions for the supply of nuclear materials from the US to Europe. This happened after the US suddenly decided to withhold fuel supplies, causing some reactors to get perilously short of fuel, to force Europe to renegotiate. There is an old-fashioned feeling in Europe that once a treaty has been negotiated, a party to that treaty doesn't just turn around and start blackmailing the other parties into renegotiating.

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CHINA

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to be noted that Western knowledge of Chinese practices concerning what we call human rights is extremely limited. If there are any dissidents in Peking, they do not mix freely with the resident foreign press corps, nor do they telephone their grievances to friends abroad. We just don't know what's going on in that department of Chinese life, but it is a fair assumption that standard practices may be at some variance with Jimmy Carter's views on the subject. Inevitably, though, as more American students and scholars go there, and more Chinese come here, we'll learn more about it, and the findings may be embarrassing.

For the moment, however, attention is focused on the problem of the moment, which is to set up some programs with our new-found Chinese friends. As is characteristic of Washington, no one is thinking beyond that. —DSG

Britain: Labs Told to Stress Practicality

London. A directive has gone out, politely of course, to the six research establishments (REs) run by Britain's Department of Industry (DoI). The message is that they should forget about those long-term scientific projects that are more suited to academic researchers and devote more of their efforts to the near-term problems of industry.

In the 1977/78 financial year the six REs — the National Physical Laboratory, the National Engineering Laboratory, the Warren Spring Laboratory, National Maritime Institute, Computer Aided Design Centre, and the Laboratory of the Government Chemist — spent around \$48 million. This money came from a number of sources: \$11 million came from the DoI for work on standards and specifications; a further \$21 million of the DoI's money went into the REs for "programs relevant to the industrial strategy," with another \$7 million for this work coming from industry; other government departments paid \$9 million for contract research carried out for regulatory and planning purposes. The DoI's contribu-

tion is just 16 per cent of the department's total authorization for R&D.

For this money the REs got the services of 3105 researchers. This is a decline of over 250 from what the REs employed just two years ago — a symptom of the long period of wage restraint that has hit government researchers harder than their colleagues in industry, where it is easier to create artificial "promotions" to justify pay rises. (The department, ever on the lookout for the positive aspects, likes to see this as one way of encouraging bright scientists to make the transition from government research into industry, which generally has difficulties recruiting researchers).

The change in emphasis at the REs is just one sign of the impact that the DoI's new R&D supremo is having. Duncan Davies, formerly with the chemical giant ICI, says the REs "can do even more for the economy than they do at the moment," although their R&D is just a few per cent of what industry does itself. That Davies is determined to push the technological side of the DoI's R&D became clear early in his reign, when he changed his own title from "Chief Scientist" to "Chief Scientist and Engineer" to emphasize the technological and industrial aspects of the job. (Davies was recently elected a Foreign Associate of the US National Academy of Engineering).

Any changes in the emphasis of the REs will not become immediately obvious because of the nature of their work. The National Physical Laboratory, for example, is a large establishment, with over 1000 employees, but its work consists of a lot of small projects. So there are no large projects to axe and replace with more industrially relevant work.

NUCLEAR

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tiating the terms.

At the Uranium Institute gathering, Nye's audience was quick to pick up apparent inconsistencies in his statement. According to his argument, we do not need such proliferating technologies as reprocessing and the breeder because there are other ways of providing the fuel that they could produce. For example, he said, the US is working on better uranium-enrichment technologies. If these prove economically viable "then it will be possible in the 1990s, to reduce the U-235 tails assay from the value of 0.20 to 0.05, thus reducing uranium requirements by almost 20 per cent." But the chances are that those very enrichment technologies will be at least as good at proliferating nuclear weapons knowhow as the technologies they could replace. Nye couldn't come up with a satisfactory answer to this one.

For all their opposition to the US's stand on a number of issues, Europe's nuclear policy makers are willing to cooperate in the INFCE program with some enthusiasm. This is partly because they believe that the US's policies are based on erroneous interpretations of the situation and dubious data. Thus the aim of INFCE is to arrive at a mutually agreed technical framework, within which the various countries can erect their own nuclear policies. In this way, the Europeans believe that the world will be spared what they now view as half-baked policies. —MK

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DNA Legislation at Standstill in Congress

The first experiments at NIH's new maximum-security recombinant DNA lab at Fort Detrick, Maryland, are reported to be proceeding as planned, but the deliberations on Capitol Hill regarding how to regulate DNA work outside of NIH are not going so smoothly.

Following an initial round of legislative exploration, revised bills on DNA regulation were introduced in the House and Senate in late February, differing primarily in their provisions for federal preemption of local authority. The House bill allows local restrictions to vary from NIH guidelines only if such requirements are more stringent than the federal guides and are deemed necessary to protect health or the environment; the Senate bill is mute on federal preemption, leaving responsibility to the States.

The preemption issue has led to some confusion in the Senate. Senator Kennedy, chairman of the health and scientific research subcommittee, supports local authority as a means of allowing a public voice in decisions about DNA work, but is running into opposition by Senators who are tending toward the House bill. Facing the possibility of the Senate bill's failure, Kennedy lately has taken a stand that no legislation at all is the best course. On 1 June, he and five other senators, including Adlai Stevenson, chairman of the science, technology, and space subcommittee, tossed the regulatory ball into the Administration's court. In a letter to HEW Secretary Califano, the six suggested that HEW take responsibility for DNA regulation by using existing statutes, such as section 361 of the Public Health Service Act, which gives the HEW Secretary broad powers to control communicable diseases, but not to preempt State governments' authority.

At this writing, there has been no response from Califano, but NIH officials and Senate sources are confident that the Secretary will reject the suggestion. There is opposition to the move in the Senate, too. Harrison Schmitt, who is on Stevenson's subcommittee, is in favor of voluntary compliance, but complained in a recent letter to *Science* magazine that "Application of Section 361 would serve as a bad precedent for Congress by encouraging unilateral and unauthorized action by the Executive Branch to regulate an area of basic scientific research."

In short, the likelihood is that HEW will turn the matter back to the Senate, and it remains to be seen whether the House bill gathers the Senate's support, the Senate pulls together on its own bill, or Kennedy's "hands-off" policy prevails and adherence to the NIH guidelines remains voluntary, except for NIH.

Revised guidelines for recombinant DNA research, expected to be released shortly by NIH, deal primarily with procedural issues, including the structure of review mechanisms and implementation. One revision that may cause some controversy will allow institutional committees, rather than NIH, to grant initial approval for start-up of recombinant DNA projects. The move is said to be aimed at cutting bureaucratic delay by several weeks. The revisions also will allow private industry to "register" for voluntary compliance with the guidelines, and will lower the containment standards for experiments with viruses.

Sixty days of "public comment" on the revised guidelines are called for by NIH, after which the agency has a maximum of 45 days before final approval is granted.

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